

PRINTERS

FAQ

Q I've gone football crazy. How can I print off a huge World Cup wallchart?

A Two versions of FIFA's tournament schedule are available on the official World Cup site at www.fifaworldcup.yahoo.com. If you prefer to while away the lonely hours between matches by chalking up your team's triumphs and humiliations, try the BBC's printable wallchart, available from <http://tinyurl.com/p4g3s>. Each of these can be printed on A4 paper using Acrobat viewer, but if you have access to an A3 printer, you could use Acrobat's Page Scaling option to get a full-size print out.

If you have an A4 printer, all is not lost. Look in your printer's driver for a multiple page or poster printing option, which may be hidden in its page layout or advanced settings. Many printers let you expand a single document to cover four, nine or even 16 pages, depending on how crazy you are. Use the print preview option to make sure you get what you're expecting.

Simon Handby

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BROTHER MFC-9420CN

★★★

£530 inc VAT

Multifunction peripherals (MFPs) based around a colour laser printer are becoming more common. In the past year, we've reviewed new models from Epson, HP and Konica Minolta, all of which cost less than £600 including VAT. With the MFC-9420CN reviewed here, Brother is the latest manufacturer to release one.

The MFC-9420CN uses the same four-pass colour laser print engine as Brother's HL-2700CN printer. This has a maximum mono print speed of 31 pages per minute (ppm) and 8ppm in colour. The flatbed scanner has an automatic document feeder (ADF) that holds up to 35 sheets of paper for multi-page copies or faxes.

This MFP is easy to set up, but the installation program seemed a bit piecemeal. It opened and closed various installers for different applications, but it detected the MFP across our network and installed it successfully. Once turned on, the MFP's control panel beeped to warn us that we hadn't configured the fax station ID, followed by a warning that there was no plain paper. When we removed the 250-sheet paper tray to add some, it beeped to tell us it was missing.

During our tests we noticed that the MFC-9420CN was printing black text with four colour passes at a slow 7.6ppm. We obtained our fast mono benchmark speed by forcing the printer into mono only, but it's frustrating that Brother's driver didn't switch modes automatically. Text was as sharp as we'd expect from a good laser, but colour prints weren't great. Grey and coloured text had comparatively rough outlines and granular dither patterns were visible in our lightest presentation slides. Photographs were also a little coarse with a light-brown colour bias.



The scanner captured colours accurately, but images weren't especially sharp. Our 150 and 300 dots per inch (dpi) scans of office documents were fine, but the scanner didn't accurately capture the smooth progression of blues in the sky of one photo. Previews and low resolution scans were fast, but scanning at 300dpi or above was not. The Brother was remarkably quick to make single and multi-page copies, taking just one minute and 39 seconds to copy 10 pages in colour.

Black and white copies were dark, though, and yellow shades became a little green in colour copies.

If you print fewer than 60,000 mono or 15,000 colour pages, you'll need to replace only the toners and waste bottle, giving low costs of 0.88p per mono page and 4.45p in colour. Print between 15,000 and 60,000 pages, though, and you'll need to spend £540 to replace the photoconductor belt and fuser. This, combined with the poor colour prints, means this MFP isn't worth buying. Epson's CX11NF, opposite, has lower mono running costs and produces better scans, prints and copies.

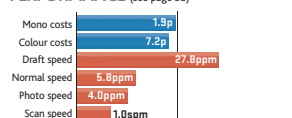
Simon Handby

SUMMARY

- ✓ Very fast mono printing
- ✗ High mono costs for heavy users
- ✗ Below-average prints and scans

LASER MULTIFUNCTION PERIPHERAL
600x600dpi print resolution,
1,200x2,400dpi scan resolution, USB
Hi-Speed, parallel and 10/100 Ethernet
interfaces PART CODE MFC9420CN
SUPPLIER www.savastore.com
DETAILS www.brother.co.uk

PERFORMANCE (see page 58)



Also consider...

SAMSUNG ML-2250

★★★★★

£113 inc VAT



Samsung's ML-2250 is iPod-white,

which makes a pleasant change from the drab beige favoured by most printer manufacturers. It takes a single 5,000-page-rated consumable, which is enough for 10 reams of paper; each sheet costing 1.33p to print. It produced text at a rapid 20.3ppm in our Draft speed and Normal speed tests.

This printer has 16MB of memory and a 250-sheet input cassette, so it's well specified for the price. It has excellent print quality and is great value.



LASER PRINTER Mono laser, 1,200dpi, 20ppm maximum speed,
USB Hi-Speed interface PART CODE ML-2250/XEU
SUPPLIER www.misco.co.uk DETAILS www.samsung.co.uk

✓ Low running costs ✗ Slow from standby FULL REVIEW Aug 2005

KYOCERA MITA FS-1920n

★★★★★

£470 inc VAT



This compact workgroup laser prints for less than half a penny a page, so it could save you a fortune over its 300,000-page lifetime. Toner cartridges are the only consumable, and each lasts for 15,000 pages. The FS-1920n is simple to maintain, but has plenty of scope for upgrades. It can be expanded to a paper capacity of 2,000 sheets, fitted with an automatic duplexer or a 1,000-page output sorter. This is a capable all-rounder with decent print quality, and its low ownership costs make it a winner.



MONO LASER PRINTER 1,800x600dpi, 28ppm maximum speed,
10/100 Ethernet, USB and parallel interfaces PART CODE FS-1920N
SUPPLIER www.savastore.com DETAILS www.kyoceramita.co.uk

✓ Hugely upgradable ✗ Clunky installer FULL REVIEW Jan 2006

CANON PIXMA MP800R



£247 inc VAT

The PIXMA MP800 sits at the top of Canon's large range of inkjet MFPs. It's a highly specified device aimed at photographic and creative use. To this end, its scanner has a high optical resolution and transparency backlight, while its printer has a very high resolution and uses tiny one-picolitre ink droplets to reduce grain.

The standard MP800 model has the PictBridge USB port and memory card slots that you might expect from a photo-oriented device, as well as an infrared receiver. As if that wasn't enough, the MP800R version reviewed here can also connect directly to a wired Ethernet or wireless network.

It isn't immediately apparent from its instructions, but this MFP must initially be configured over a USB connection, even if you plan to use it on a network. We hoped to connect to it using a wireless connection, but the MFP wasn't able to detect our 802.11g access point, which was configured to use wireless channel 13. Digging in Canon's help files revealed that the MP800R supports only the 11 American wireless channels. Europe gets an extra two channels: 12 and 13.

After changing our router's channel, the MP800R successfully joined our network. The installation program's automatic performance measurement routine warned us that we might experience slow performance. This proved to

be the case, and prints and scans frequently failed despite a good wireless signal. We moved the MFP to within five metres of the access point, but its wireless performance remained unusable. We conducted the rest of our tests over a wired network connection.

The printer put in a strong performance across all our print benchmarks. Draft and correspondence-quality text was up to a high standard and it appeared quickly. As with other PIXMA inkjets equipped with automatic duplex (double-sided) printing, identical settings produced inferior results to regular single-sided prints. Colour plain paper prints looked good, and were almost as fast as we've seen from an inkjet, while glossy photo prints were impressive with no visible grain.

The quality of images captured by the scanner was equally high, with accurate colour reproduction and good light and shade detail. Film scans weren't remarkably sharp, but the results were competitive for a flatbed. Unfortunately, scan times were slow, particularly at high resolutions. The MP800R took a tedious four minutes and 53 seconds to complete a scan of a 6x4" photograph at 1,200dpi. We wondered if scan speeds were being limited by the MFP's network connection and reinstalled it using USB. Scan times were



dramatically improved, with the same 1,200dpi scan taking a competitive 52 seconds.

The MP800R produces quality scans, prints and copies, but it's expensive. We were also disappointed with the wired networking, which was slower than its USB connection; we found the wireless interface pointless on our review unit, as it often cut out, leaving a job incomplete. A better option is the USB-only MP800, which has the same scanner and print engine but costs £74 less. If you must have support for wired networking and don't mind slightly more grain in photo prints, we'd recommend HP's Photosmart 3210 (see 'Also consider...' page 26).

Simon Handby

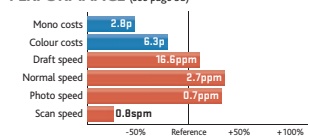
SUMMARY

- Fast, high-quality printing
- Poor wireless network connection
- Very expensive

INKJET MULTIFUNCTION PERIPHERAL

9,600x2,400dpi print resolution, 2,400x4,800dpi scan resolution, USB Hi-Speed, PictBridge USB, Fast I/R, 10/100 Ethernet and 802.11g wireless network interfaces PART CODE 0582B007AA SUPPLIER www.dabs.com DETAILS www.canon.co.uk

PERFORMANCE (see page 58)



▲ You need to fit the MP800R's print head (left) before its ink cartridges. It's an extra step, but it's easier than setting up its wireless networking

EPSON AcuLaser C1100



£235 inc VAT

Epson's C1100 is reasonably large for a four-pass colour laser, and it's more tricky than many to set up.

In our tests it came commendably close to Epson's claimed speeds, but the most welcome discovery was its superb all-round print quality.

This is an excellent, inexpensive printer with reasonable running costs.



COLOUR LASER PRINTER Colour laser, 600dpi, 25ppm mono/5ppm colour maximum speed, USB Hi-Speed interface PART CODE C11C567001 SUPPLIER www.misco.co.uk DETAILS www.epson.co.uk Excellent print quality Fiddly to set up FULL REVIEW Apr 2005

EPSON AcuLaser CX11NF



£589 inc VAT

Multifunction peripherals based on colour laser printers aren't getting any smaller, but they're

finally affordable. This hulking Epson is the best example we've tested. It has built-in fax capability, a good scanner and great print quality. It's easy to install and use, but colour prints could be cheaper.



COLOUR LASER MFP 600dpi print resolution, 25ppm mono/5ppm colour maximum speed, 600x600dpi scan resolution, USB Hi-Speed and 10/100 Ethernet interfaces PART CODE C11C588081DA SUPPLIER www.dabs.com DETAILS www.epson.co.uk Easy network setup Limited paper handling FULL REVIEW Oct 2005

HP Photosmart 8250



£99 inc VAT

PRICE CUT!

The Photosmart 8250 produces excellent print quality on plain or coated paper. It's one of the fastest photo printers we've tested, but it also dashed off our Draft speed test at 18.5ppm. It has easy-to-use direct photo printing features and HP's recent price drop has made it better value than ever.



INKJET PRINTER Six-colour inkjet, 4,800x1,200dpi maximum resolution, USB Hi-Speed and PictBridge USB interfaces PART CODE Q3470B SUPPLIER <http://uk.insight.com> DETAILS www.hp.co.uk Fast, high-quality prints Occasional untidy paper output FULL REVIEW Dec 2005

EPSON Stylus Photo RX640

★★★★
£200 inc VAT

Like the Canon PIXMA MP800R, reviewed on page 25, Epson's Stylus Photo RX640 is a high-end inkjet MFP aimed at creative users and digital photographers. The RX640's printer has a lower resolution and larger three-picolitre ink droplet size than the MP800R, but it prints photos with six inks, which can help to reduce grain compared with four-ink printers.

Like most MFPs, the RX640 comes with a USB cable. Several inches of its length are wasted in reaching the RX640's USB port, though, which is secreted away under the scanner bed. Epson's installation program is quick and painless, although it doesn't prompt you to align the print heads. You can do this from the RX640's front panel – the manual process involves choosing the best patterns on a single page.

The RX640's scanner has a transparency backlight for scanning film and a higher resolution than most MFPs. HP's Photosmart 3210, below, can scan at higher resolutions, but images captured by the RX640's scanner were exceptionally good with sharp focus for a flatbed scanner. Using the default settings, the background to our office document scans took on a blue cast, but we cured this by switching the Auto Exposure type from Photo to Document.

As with many six-colour Epson inkjets we've tested, the RX640 produces excellent photographs with



extremely accurate and natural colours. Our test prints lacked the crisp detail of the MP800R's results, but we preferred their higher contrast and more saturated dark colours. Unfortunately, the RX640 is no match for the MP800R or Photosmart 3210 when it comes to plain paper prints. Its Draft text quality was just about acceptable for our draft speed test, but we had to use the Photo setting to get acceptable quality on our normal tests, leading to slow performances. At this setting, graphics had solid colour and crisp outlines but seemed a little sombre.

Using the RX640's memory card slots for direct photo printing makes good use of the MFP's large, high-quality screen. The control system is easier to use than those of some recent Epsos, but we were frustrated by the lack of a dedicated mono copy button. Copies are colour by default, with mono available through a menu option.

The RX640 is a good choice if you want an MFP only for photo prints and scanning. It's expensive, though, and its slow plain paper performance means it isn't suitable for quick everyday jobs.

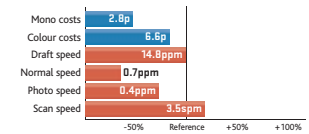
Simon Handby

SUMMARY

- ✓ Excellent photos and scans
- ✗ Slow plain paper prints
- ✗ Expensive

INKJET MULTIFUNCTION PERIPHERAL
5,760x1,440dpi print resolution,
3,200x6,400dpi scan resolution, USB
Hi-Speed and PictBridge USB interfaces
PART CODE C11C608021
SUPPLIER www.dabs.com
DETAILS www.epson.co.uk

PERFORMANCE (see page 58)



CHOOSING A... Laser Printer

Follow the steps to find your ideal specs

RESOLUTION: 600x600dpi
MEMORY: 8MB
SPEED: 12ppm
INTERFACES: USB
PAGES PER MONTH: 5,000
PAPER TRAYS: 150-sheet A4
OPTIONS:

Recommended minimum in grey

1 Prices for A4 laser printers with specs such as those above start at around £70. These models are fine for users who print less than one packet (500 pages) of paper a month. Look for good print quality, flexible drivers and running costs of below 2p per page. It should ideally hold paper clean and flat in a horizontal tray and allow manual feeding of headed paper and envelopes with no creasing.

2 You must spend more for a printer with the build quality and speed to cope with a heavy workload. Heavy users or small workgroups need up to 25 pages per minute (ppm), and whole departments need even more. Bulk printing demands costs of 1p per page or less.

3 Colour lasers are now available for less than £200, but at this price you'll get a four-pass model that will print colour far slower than mono. If colour speed is important, consider spending £400 or more on a faster single-pass model.

4 Support for a printer language such as Printer Control Language (PCL) 6 or PostScript 3 means you can use the printer with any computer and even some PDAs.

5 Not all lasers print graphics well, but a 1,200dpi resolution helps. Colour lasers can often print high-quality graphics but should have at least 32MB of memory.

6 A network adaptor allows you to connect a printer to an Ethernet network, so all the network users can print to it directly. Smaller groups can use a PC to host and share any printer using Windows' File and Print sharing wizard.

7 Duplex printing is an increasingly affordable option and lets you print on both sides of a sheet of paper automatically. A scanner/fax unit turns your printer into a multifunction peripheral. Large groups should get multiple paper trays to deal with headed paper and other stationery.

Also consider...

HP DeskJet 5940

★★★★★
£59 inc VAT

BEST BUY A metal lid lends a touch of class to this mid-range inkjet, but the supplied 800-page black cartridge makes it incredibly good value. It's also very fast, reaching 20ppm in our Draft speed test. Low mono running costs of 2.2p per page helped it eclipse the competition in our recent inkjet *Labs* test.



INKJET PRINTER Four-colour inkjet, 4,800x1,200dpi maximum resolution, USB and PictBridge USB interfaces
PART CODE C9017B SUPPLIER www.amazon.co.uk
DETAILS www.hp.co.uk ✓ Very fast and quiet ✗ No upgrades available FULL REVIEW Dec 2005

HP Photosmart 3210

★★★★★
£147 inc VAT

PRICE CUT!

BEST BUY This MFP has everything you need to tackle creative projects. It produces high-quality, cheap prints quickly on plain or photo paper. The scanner has a high resolution and can capture film, although it does a better job with reflective originals.



MULTIFUNCTION PERIPHERAL 4,800x1,200dpi print resolution, 4,800x4,800dpi scan resolution, USB Hi-Speed PictBridge USB and 10/100 Ethernet interfaces PART CODE Q5843B
SUPPLIER www.misco.co.uk DETAILS www.hp.co.uk
✓ Good value ✗ No fax FULL REVIEW Feb 2006